FIG. 1(A)

Mark A with cycle period comprising 3 unit frames
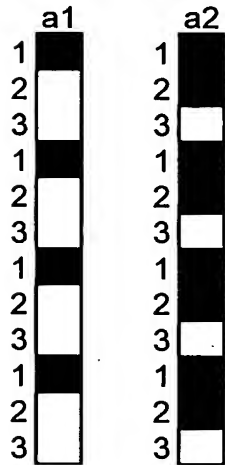

FIG. 1(B)

Mark B with cycle period comprising 4 unit frames
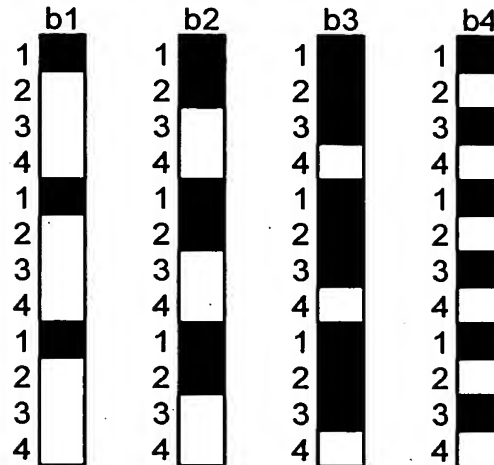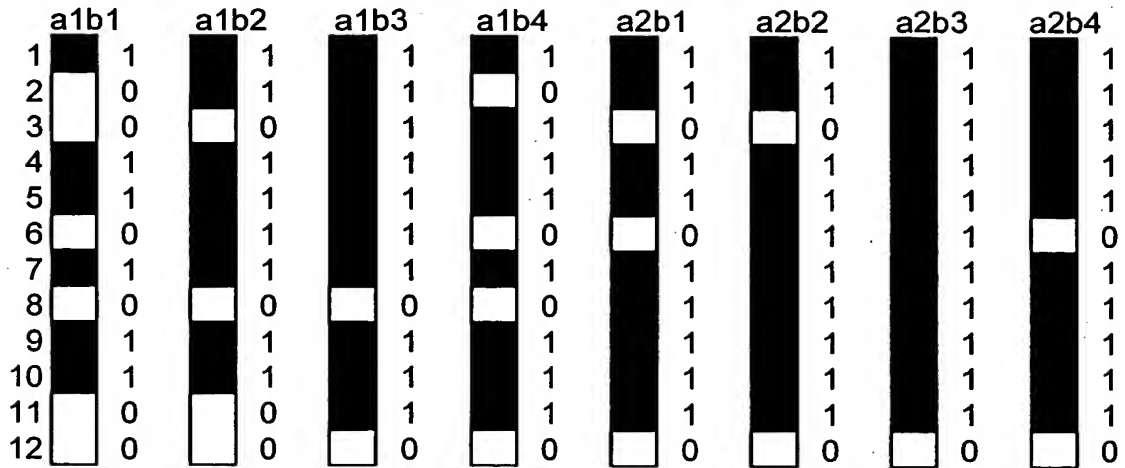

FIG. 1(C)

Combination of Mark A and Mark B

Sensor output

FIG. 2(A) Mark A with cycle period comprising 3 unit frames

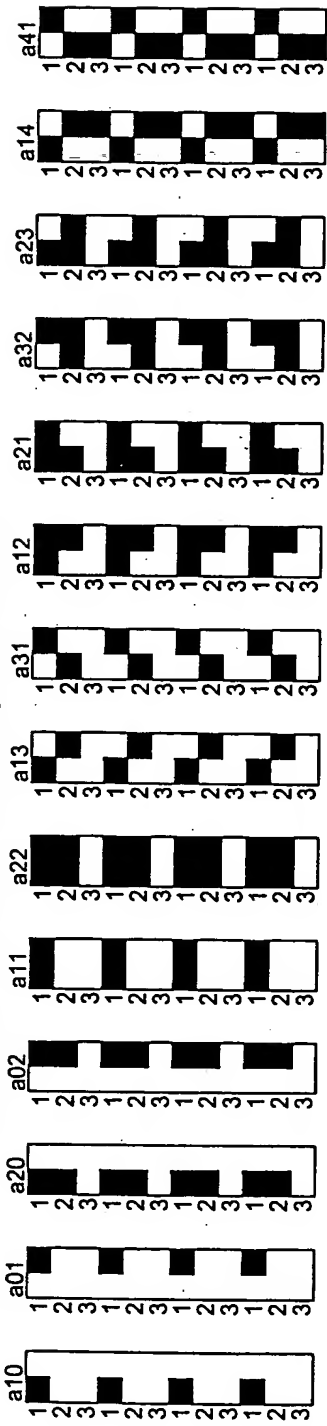FIG. 2(B) Mark B with cycle period comprising 4 unit frames

FIG. 2(C) Combination of Mark A and Mark B
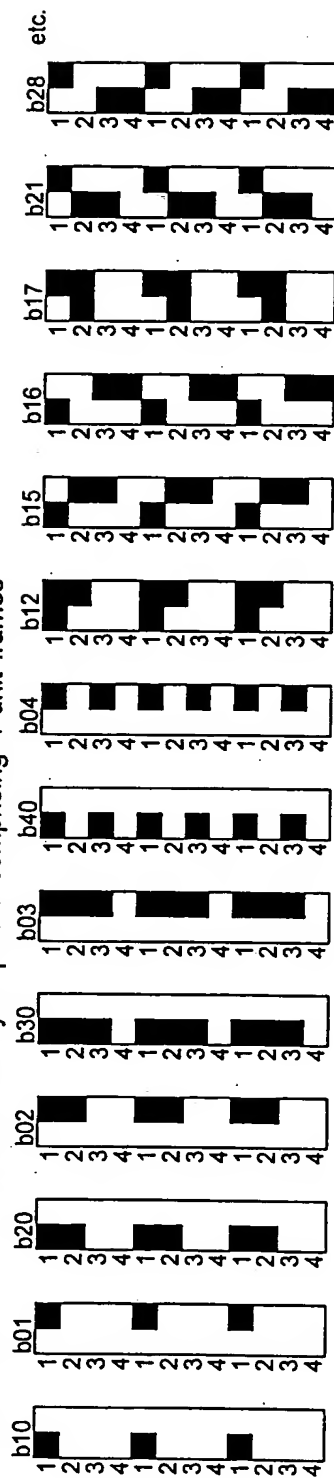
FIG. 3(A)

Mark K with cycle period
comprising 3 unit frames
Black mark

	k1		k2
1	■	1	■
2	□	2	■
3	□	3	□
1	■	1	■
2	□	2	■
3	□	3	□
1	■	1	■
2	□	2	■
3	□	3	□
1	■	1	■
2	□	2	■
3	□	3	□

FIG. 3(B)

Mark L with cycle period
comprising 4 unit frames
White mark

	l1		l2		l3		l4
1	▨	1	▨	1	▨	1	▨
2	□	2	▨	2	▨	2	□
3	□	3	□	3	▨	3	▨
4	□	4	□	4	□	4	□
1	▨	1	▨	1	▨	1	▨
2	□	2	▨	2	▨	2	□
3	□	3	□	3	▨	3	▨
4	□	4	□	4	□	4	□
1	▨	1	▨	1	▨	1	▨
2	□	2	▨	2	▨	2	□
3	□	3	□	3	▨	3	▨
4	□	4	□	4	□	4	□

FIG. 3(C)

Combination (Black mark A is layed on White mark B)

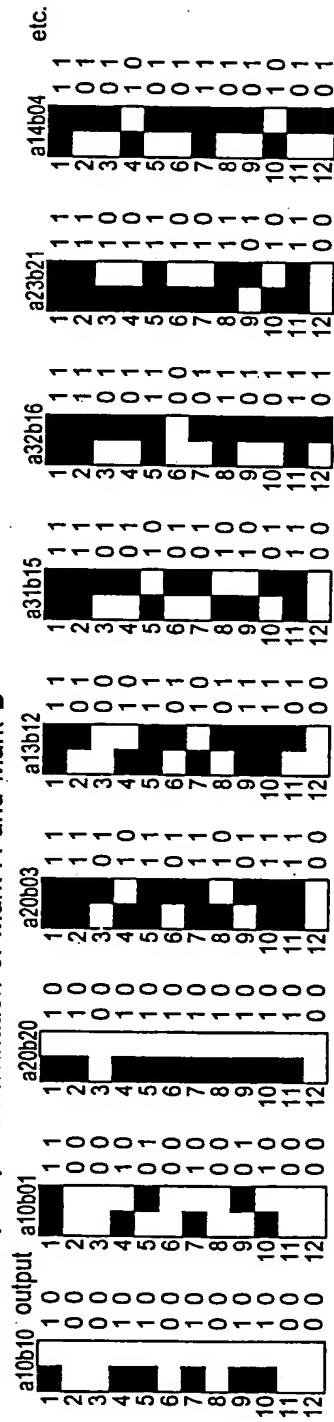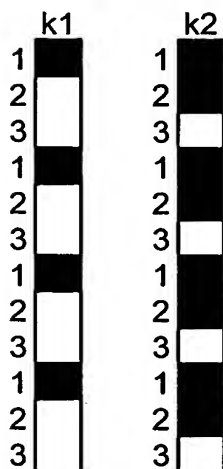|	k1l1		k1b2		k1b3		k1b4		k2b1		k2b2		k2b3		k2l4	
1	■	1	▨	1	▨	1	▨	1	■	1	■	1	■	1	▨	1
2	□	0	▨	1	▨	1	□	0	■	1	■	1	■	1	▨	1
3	□	0	□	0	▨	1	▨	1	□	0	□	0	▨	1	▨	1
4	■	1	▨	1	▨	1	▨	1	■	1	■	1	▨	1	▨	1
5	▨	1	▨	1	▨	1	▨	1	■	1	■	1	▨	1	▨	1
6	□	0	▨	1	▨	1	□	0	□	0	▨	1	▨	1	□	0
7	■	1	■	1	■	1	■	1	■	1	■	1	■	1	■	1
8	□	0	□	0	□	0	□	0	■	1	■	1	■	1	■	1
9	▨	1	▨	1	▨	1	▨	1	▨	1	▨	1	▨	1	▨	1
10	■	1	■	1	▨	1	▨	1	■	1	■	1	■	1	■	1
11	□	0	□	0	▨	1	▨	1	■	1	■	1	■	1	■	1
12	□	0	□	0	□	0	□	0	□	0	□	0	□	0	□	0

Sensor output, in which

Frame □ expresses output of White mark

FIG. 4(A) Mark A with cycle period comprising 3 unit frames (a1)

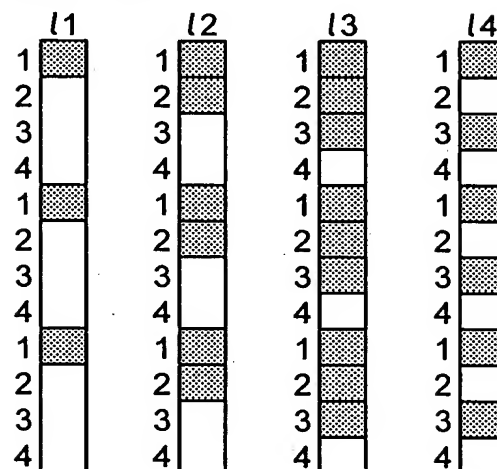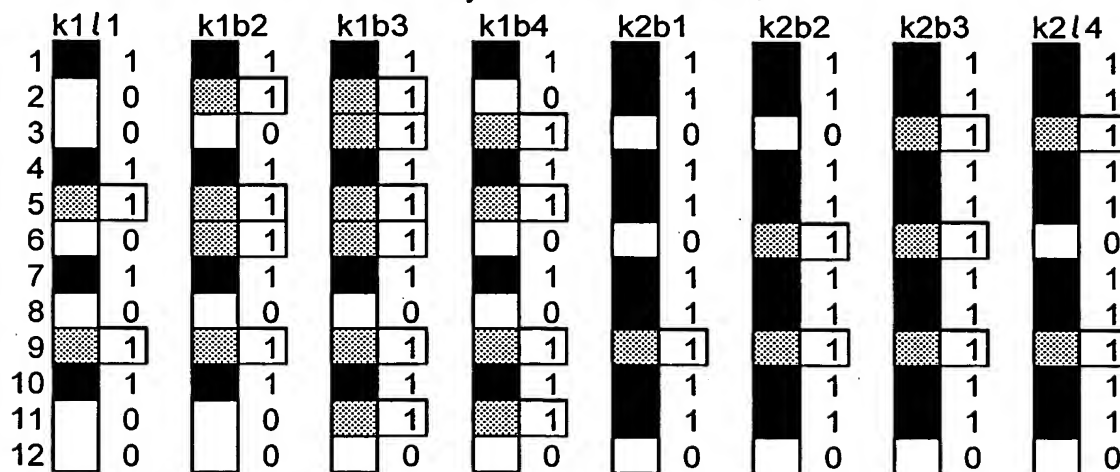FIG. 4(B) Mark B with cycle period comprising 4 unit frames (b1)

FIG. 4(C) Mark AB with cycle period comprising 12 unit frames (a1b1)

FIG. 4(D) Mark A with cycle period comprising 3 unit frames (a2)

FIG. 4(E) Mark B with cycle period comprising 4 unit frames (b2)

FIG. 4(F) Mark AB with cycle period comprising 12 unit frames (a2b2)

FIG. 5(A) Mark A with cycle period comprising 3 unit frames (a12)

FIG. 5(B) Mark B with cycle period comprising 4 unit frames (b12)

FIG. 5(C) Mark AB with cycle period comprising 12 unit frames (a12B12)

FIG. 5(D) Mark A with cycle period comprising 3 unit frames (a41)

FIG. 5(E) Mark B with cycle period comprising 4 unit frames (b21)

FIG. 5(F) Mark AB with cycle period comprising 12 unit frames (a41b21)

FIG. 6(A) Mark K with cycle period comprising 3 unit frames (k1)

FIG. 6(B) Mark L with cycle period comprising 4 unit frames (l1)

FIG. 6(C) Mark KL with cycle period comprising 12 unit frames (k1l1)

FIG. 6(D) Mark K with cycle period comprising 3 unit frames (k2)

FIG. 6(E) Mark L with cycle period comprising 4 unit frames (l2)

FIG. 6(F) Mark KL with cycle period comprising 12 unit frames (k2l2)